

ATTACHMENT J3

127th Wing Water Distribution System

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J3 127th Wing Water Distribution System

J3.1 Selfledge Overview

Selfledge is located on the north side of the metropolitan area of Detroit, Michigan, along the western shore of Lake St. Clair. It is the home of the 127th Wing of the Michigan Air National Guard and the United States Army Garrison-Selfledge. The 127th Wing of the ANG includes the Logistics, Operations, and Support Groups. Aircraft that are assigned to the base include the F-16 “Fighter Falcon,” and C-130 “Hercules” (ANG), KC-135 “Stratotanker” (AFRC), and the HH-65 “Dolphin” helicopter of the Coast Guard. The Army portion of Selfledge also provides housing for military personnel. The Air Force Reserve (AFRC) 927th Air Refueling Wing provides the KC-135 mission on base and occupies numerous facilities on ANG property, making it the third largest group on base. The 127th Wing is the host command.

U.S. Army Garrison-Selfledge serves the Tank-automotive and Armaments Command (TACOM) supporting tank construction in the Detroit area. Other army units stationed at Selfledge include an active Army Readiness unit, Army Reserves, and a unit of the Army Guard (Rangers).

Several other branches of the U.S. military also have offices or units on the base. They include the 425th infantry and Army Guard Recruiting, Naval Mobile Construction Battalion, Naval Air Reserve Activity Selfledge, Naval Reserve Center, Immigration and Naturalization Service for U.S. Boarder Patrol, Marine Wing Support Group 47, the Army’s 3rd Brigade, 85th Division, and the 75th Explosive Ordnance Company. The Coast Guard Air Station Detroit also uses Selfledge as a base of operations.

The working population of the base is currently 550 on active duty, 1,720 civilian workers, and 4,200 reservists and guardsmen.

The site upon which Selfledge is located initially was established as an airfield during the early part of the 20th century. It began being used as an airfield for the U.S. Army Air Corps in the 1920s. Over the years, it grew into an active duty base for the Air Force. In 1971 the U.S. granted a license to the State of Michigan for the use of the former Selfledge Air Force Base for National Guard purposes. The base at that time consisted of roughly 3,075 acres of land, including a complete airfield, buildings to support base operations and flight-line activities, 593 on-base housing units and associated quality of life facilities, and miscellaneous other buildings. In 1989, the Air Force transferred 520 acres of the base and the 102-acre Seville Manor housing area to the U.S. Army. The ANG also leases another area at the southeast corner of the base to the U.S. Army.

Currently the 127th Wing side of the base contains 228 buildings, and the U.S. Army side including Seville Manor contains 495 buildings (mostly housing). The total structure surface area over the entire base covers 1,922,310 ANG, 1,513,954 Army for a total of 3,436,255 square feet.

In 1997 Team Selfridge completed the Vision 2000 Base Renovation Plan. The Vision 2000 document identifies the condition of many aspects of the utility infrastructure, pavement, and buildings on the site. It also lays out a plan for implementing the recommendations for renovations presented in the plan. Based upon the Vision 2000 document, plans for demolition, construction, and new infrastructure projects have begun. Of particular interest to this feasibility analysis report is the expectation that demolition and construction on the base will result in a net reduction in the surface area of structures (127th Wing and U.S. Army). The reduction in building area is expected to result in a proportionate reduction in demand for the four commodities being analyzed by the project..

J3.2 Water Distribution System Description

J3.2.1 Water Distribution System Fixed Equipment Inventory

The 127th Wing water distribution system consists of all appurtenances physically connected to the distribution system from the point at which Government ownership currently starts to the point of demarcation, defined by the Right of Way. The system may include, but is not limited to, pipelines, valves, fire hydrants, storage facilities, exterior backflow devices, pumps, and meters. The actual inventory of items sold will be in the bill of sale at the time the system is transferred. The following description and inventory is included to provide the Contractor with a general understanding of the size and configuration of the distribution system. The Government makes no representation that the inventory is accurate. The Contractor shall base its proposal on site inspections, information in the technical library, other pertinent information, and to a lesser degree the following description and inventory. Under no circumstances shall the Contractor be entitled to any service charge adjustments based on the accuracy of the following description and inventory.

Specifically excluded from the water distribution system privatization are:

- Irrigation System
- Fire Suppression System

J3.2.1.1 Description

The water distribution system on the main portion of Selfridge is generally a large grid with several sub grid areas. The City of Mount Clemens supplies potable water for use on the main portion of Selfridge as well as in Seville Manor. A 10-inch diameter pipe belonging to the 127th Wing, connects to Mount Clemens' potable water distribution system at a point approximately 1 mile west of the west side of the Base. The pipe delivers water to the Selfridge water distribution grid system through a master meter at the Joy Road entrance. Another pipe exits the property from the north side of the base and transports water to Seville Manor. Charter Township of Harrison also has a water line that serves the south end of the base. This line feeds into a fire suppression system at a single building for emergency use. As a result, water consumption from the Township of Harrison is relatively low.

The 127th Wing owns and manages the water distribution on the ANG portion of the installation with a system consisting of approximately 118,000 linear feet of pipe. Pipe

materials are cast iron, ductile iron, transite and copper in sizes varying from 1 to 12 inches in diameter installed between 1940 and 1999. Pipes, valves, and fire hydrants are being replaced in an organized manner following goals presented in the Team Selfridge Vision 2000 base revitalization document. There is not a cathodic protection system on the water distribution system.

There are two water storage tanks on the 127 Wing property: a 100,000-gallon elevated, and 500,000-gallon underground. The 500,000-gallon underground reservoir contains a pump station to boost pressure and flow in case of emergency.

The 127th Wing and U.S. Army water distribution systems are interconnected. The remaining system components consist of a variety of ages, from the 1980s to the 1940s.

J3.2.1.2 Inventory

Table 1 provides a general listing of the major water distribution system fixed assets for the 127th Wing water distribution system included in the sale.

Table 1

Fixed Inventory
Water Distribution System 127th Wing

Item	Size (in.)	Quantity	Unit	Approximate Year of Construction
Ductile Iron Pipe				
	4	470	lf	1983
	6	7,543	lf	1977
	8	2,477	lf	1992
	10	7,141	lf	1956
	12	11,855	lf	1998
Cast Iron Pipe				
	2	1,000	lf	1959
	3	7,500	lf	1955
	4	439	lf	1959
	6	22,099	lf	1953
	8	25,573	lf	1954
	10	9,170	lf	1958
	12	1,100	lf	1940
Asbestos Concrete Pipe (Transite)				
	3	1,307	lf	1957
	4	7,827	lf	1957
Copper				
	1	4,100	lf	1961

	1.5	4,100	Lf	1961
	2	4,100	Lf	1980
Meter Pit		1	ea	1990
Gate Valve				
	6	27	Ea	1998
	8	22	Ea	1998
	12	18	Ea	1998
	4	4	ea	1985
	6	33	ea	1960
	8	49	ea	1960
	10	18	ea	1980
	12	13	ea	1995
Fire Hydrants (4.5-inch Valve Size)		148	ea	1970
Elevated Storage Tank (100,000 gal. Capacity)	100,000 gal	1	ea	1960
Underground Reservoir (500,000 gal.)	500,000 gal	1	ea	1943
Water Meters		20	ea	1966

Notes:

PVC = Polyvinyl chloride

EA = Each

GAL= Gallon

HP = Horsepower

LF = Linear Feet

J3.2.2 Water Distribution System Non-Fixed Equipment and Specialized Tools

TABLE 2 LISTS OTHER ANCILLARY EQUIPMENT (SPARE PARTS) AND **TABLE 3** LISTS SPECIALIZED VEHICLES AND TOOLS INCLUDED IN THE PURCHASE. OFFERORS SHALL FIELD VERIFY ALL EQUIPMENT, VEHICLES, AND TOOLS PRIOR TO SUBMITTING A BID. OFFERORS SHALL MAKE THEIR OWN DETERMINATION OF THE ADEQUACY OF ALL EQUIPMENT, VEHICLES, AND TOOLS.

TABLE 2

Spare Parts

Water System 127th Wing

Qty	Item	Make/Model	Description	Remarks
24	Repair Sleeves	N/A	Varying Sizes	N/A
13	Pipe Couplers	N/A	Varying Sizes	N/A
10	Stop Boxes	N/A	Varying Sizes	N/A
30	Curb Boxes	N/A	Varying Sizes	N/A
6	Cut-in Sleeves	N/A	Varying Sizes	N/A

Qty	Item	Make/Model	Description	Remarks
3	Water Main Valves	N/A	Varying Sizes	N/A
1	P.I.V.	N/A	Varying Sizes	N/A

TABLE 3

Specialized Vehicles and Tools
Water Distribution System 127th Wing

Description	Quantity	Location	Maker
Street Keys	3	On site	Not available
Manhole Ladders	1	On site	Not available
Curb Keys	1	On site	Not available

J3.2.3 Water Distribution System Manuals, Drawings, and Records

Table 4 lists the manuals, drawings, and records that will be transferred with the system.

TABLE 4

Manuals, Drawings, and Records
Water Distribution System 127th Wing

Qty	Item	Description	Remarks
1	Water Distribution System Plan view	Drawing of system showing approximate locations of pipes, valves, and other appurtanances.	
1	Infrastructure Upgrade Design Drawings	Drawings for infrastructure project currently under construction	
1	Miscellaneous	Contents of files will be made available to new owner.	Manuals, Drawings and Records are being compiled at this time. They will be available for review in Technical Library

J3.3 Specific Service Requirements

The service requirements for the 127th Wing water distribution system are as defined in the Section C, *Description/Specifications/Work Statement*. The following requirements are specific to the 127th Wing water distribution system and are in addition to those found in Section C. If there is a conflict between requirements described below and Section C, the requirements listed below take precedence over those found in Section C.

- The contractor must subscribe to the *MISS DIG* utilities locating service
- Grounds and structures areas shall be maintained to meet base standards
- Coordinate any change to the water system that may affect fire protection with the Base Fire Department
- Coordinate replacement or changes to fire hydrants with the Base Fire Department

- Painting of fire hydrants shall meet base standards
- Provide water (through distribution system) that meets all requirements or standards for domestic water quality.
- Periodic water pressure testing of all fire hydrants to provide information on flow rates and pressure. Provide results of testing to Base Fire Department.

J3.4 Current Service Arrangement

The primary water service provider to the Selfridge is the City of Mount Clemens. The Charter Township of Harrison supplies water for emergencies/fire suppression at a building at the south end of the installation. The domestic water demand was assumed to be equal to the peak day demand (the peak day demand is equal to twice the average day demand). The average daily domestic water demand was calculated to be 464 gpm (including the U.S. Army demand). In addition to domestic demand, fire demands must be included in the total water system demand. The fire demand for the 127th Wing and U.S. Army was calculated to be 2,800 gpm. Therefore, the total system demand is estimated as 3,264 gpm. Expansion, additions and demolition of buildings are outlined in the Vision 2000 report. The result appears to be a net reduction in square footage of structures on the base.

J3.5 Secondary Metering

J3.5.1 Existing Secondary Meters

Table 5 provides a listing of the existing (at the time of contract award) secondary meters that will be transferred to the Contractor. The Contractor shall provide meter readings for all secondary meters IAW Paragraph C.3 and J3.6 below.

TABLE 5
Existing Secondary Meters
Water Distribution System 127th Wing

Meter Location – Building Number	Meter Description (Type)
34,46,103,158,160,559,590,708,997,1018,1025,1030, 1401,1423,1441,1466,1469,1492,1493,1533	20 127 th Wing existing secondary meters

J3.5.2 Required New Secondary Meters

The Contractor shall install and calibrate new secondary meters as listed in **Table 6**. New secondary meters shall be installed IAW Paragraph C.13. After installation, the Contractor shall maintain and read these meters IAW Paragraphs C.3 and J3.6 below.

TABLE 6

New Secondary Meters
Water Distribution System 127th Wing

Meter Location – Building Number	Meter Description
3,5,7,9,14,15,17,18,24,32,33,36,37,39,45,50,99,104,105,117,118,120,126,127,128,129,130,140,154,162,165,168,170,171,178,190,192,195,301,302,303,304,305,310,327,350,501,515,516,518,527,566,806,814,826,836,880,882,884,885,890,891,900.906.1011,1050,1051,1400,1405,1408,1409,1410,1414,1416,1419,1420,1421,1422,1425,1426,1427,1428,1429,1430,1435,1436,1437,1446,1465,1515,1516,1519,1522,1537,1572	Install new meters that meet current base standards for newly installed water meters. This includes having the capability to be read remotely through a computer.

J3.6 Monthly Submittals

The Contractor shall provide the Government monthly submittals for the following:

1. Invoice (IAW G.2). The Contractor's monthly invoice shall be presented in a format proposed by the Contractor and accepted by the Contracting Officer. Invoices shall be submitted by the 10th of each month for the previous month. Invoices shall be submitted to:

Name: 127WG/CERU

Address: 43275 Mulberry, Selfridge ANGB, MI 48045

Phone number: (810) 307-4655

2. Outage Report. The Contractor's monthly outage report will be prepared in the format proposed by the Contractor and accepted by the Contracting Officer. Outage reports shall be submitted by the 10th of each month for the previous month. Outage reports shall be submitted to:

Name: 127WG/CEO

Address: 43275 Mulberry, Selfridge ANGB, MI 48045

Phone number: (810) 307-4992

3. Meter Reading Report. The monthly meter reading report shall show the current and previous month readings for all identified secondary meters. The Contractor's monthly meter reading report will be prepared in the format proposed by the Contractor and accepted by the Contracting Officer. Meter reading reports shall be submitted by the 15th of each month for the previous month. Meter reading reports shall be submitted to:

Name: 127WG/CERU

Address: 43275 Mulberry, Selfridge ANGB, MI 48045

Phone number: (810) 307-4655

J3.7 Water Conservation Projects

IAW Paragraph C.3, Utility Service Requirement, the following projects have been implemented by the Government for conservation purposes.

- None Identified

J3.8 Service Area

IAW Paragraph C.4, Service Area, the service area is defined as all areas within the 127th Wing boundaries. Additionally, the water main extending approximately one mile west of the west property line on Joy Road that connects to the Mount Clemens water supply is part of the service area. The pipe that transports water from the base to Seville Manor is also within the service area. Access for these pipes is allowed through easements with owners of the land they cross.

J3.9 Off-Installation Sites

There are no off-installation sites for the 127th Wing that are not already connected to the water distribution system. The water line that feed water to the installation from Mount Clemens is not considered off-site. Also, the water line that delivers water from the main part of the system to Seville Manor is not considered to be off-installation.

J3.10 Specific Transition Requirements

IAW Paragraph C.13, Transition Plan, **Table 7** provides a listing of service connections and disconnections required upon transfer.

TABLE 7
Service Connections and Disconnections
Water Distribution System 127th Wing

Location	Description
Upgrade Infrastructure; East Side Cantonment area	The 127 th is currently completing a project to upgrade infrastructure in the center/east side of the installation. Construction is under way and is scheduled for completion in mid 2001. The completion date may be after the award and transfer date for utility privatization. Ownership of these new portions of the utility system will be transferred after the construction is completed and the new portions of the system have been accepted by the 127 th Wing. Contractor shall allow service connections to be made as part of the infrastructure project if they need to occur after the utility systems have been transferred..

J3.11 Government Recognized System Deficiencies

Table 8 provides a listing of system improvements that the Government has planned. The Government recognizes these improvement projects as representing current deficiencies associated with the 127th Wing water distribution system. If the utility system is sold, the Government will not accomplish these planned improvements. The Contractor shall make a determination as to its actual need to accomplish and the timing of any and all such planned improvements. Capital upgrade projects shall be proposed through the Capital Upgrades and Renewal and Replacement Plan process and will be recovered through Schedule L-3. Renewal and Replacement projects will be recovered through Sub-CLIN AB.

Table 8

System Deficiencies
Water Distribution System 127th Wing

Project Location	Project Description
Building 154 to Taxiway F	The 6" water main (approximately 1500 feet) is not performing adequately and is in need of replacement
Building 1055	Approximately 2300 feet of 8" main running from building 1055 is not performing adequately and is in need of replacement
1500 area to 1492 area	The 4" transite pipe from 1500 area to 1492 area (approximately 1500 feet) needs replacement
Building 905 to 154	The 8" line from building 905 to 154 (approximately 4000 feet) needs replacement
Joy Gate to 1500 area	The 4" line from Joy Gate to 1500 area (approximately 1 mile) needs replacement
Building 835	The 6" line from building 835 to the north (approximately 550 feet) needs replacement
Building 566 to 1055	The 6" line from building 566 to 1055 (approximately 550 feet) needs replacement
Taxiway F to building 590	The 6" main from Taxiway F to building 590 is undersized and needs to be enlarged
Underground Storage Tank (500,000 gallon)	The storage tank is in need of new valve motors and controls. Presently, only manual valve operation is available. Needs a system that will cycle water in and out of the tank automatically to maintain acceptable chlorine levels
Munitions Storage Building on East Side of Installation	Recent flow tests show that water supply and pressure are inadequate for fire protection at this building. A single dead-end water line supplies water to this building. An additional line must be installed to create a looped water distribution line so that flow rate and pressure are adequate for fire protection.
Building 1422 to the West Ramp	The 10" line from building 1422 to the West Ramp (approximately 1500 feet) needs replacement
Upgrade Infrastructure; East Side Cantonment area	<p>The Base infrastructure systems are old and have not been upgraded to meet current demands in many areas. The overhead electrical system is old undersized, and unreliable. The wooden poles are old, warped, cracked and not properly located. The street lighting system is direct buried at shallow depths and is unreliable. The domestic water system is over 50 years old in some areas, full of iron deposits that limits flow and not looped leading to dead-end lines. Since the water cannot properly circulate, the chlorination system does not work and as a result there is higher than normal bacteria content in these lines. The system is supplied by a single off-base source. The water lines that feed the Fire protection and suppression systems are undersized. The sanitary sewer system dates back to the 1930's with no significant upgrades and the lines experience storm water infiltration as a result of age and cracked lines.</p> <p>A project to correct these deficiencies in the East Side Cantonment Area is currently under construction and is scheduled to be completed by July 2001. The work being performed includes primary electrical, domestic water, fire suppression water system, sanitary sewers, storm water system, street lighting, communication system, sidewalks, parking lots, secondary roadways and supporting systems. All systems to be in accordance with their respective national codes. Estimated cost \$10,000,000</p>

100,000 Gallon Water Tank	The 100,000 gallon water tank on the west side of the base needs replacement
Base Fire Hydrants	Approximately 240 (80%) of the base fire hydrants require replacement due to unavailability of spare parts
